

Transmittal Letter to the United States  
Designated/Elected Office (DO/EO/US)

ICD8 Rec'd PCT/PTO 02 MAR 2001

Page 1

FORM PTO-1390

09/786308

Docket No. **KO-38PCT**  
U.S. Application No.  
International Application No.: **PCT/DE99/02213**  
International Filing Date.: **July 16, 1999**  
Priority Date Claimed: **September 16, 1998**  
Title of Invention: **METHOD AND DEVICE FOR PRODUCING A LARGE-VOLUME CONTAINER**  
Applicant(s) for (DO/EO/US): **Günter Richter**

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

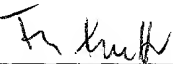
1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This express request to begin national examination procedures 35 U.S.C. 371 (f) at any time rather than delay examination until the expiration of the applicable time limit set forth in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).
4. ☐ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date
5. ☒ A copy of the International Application as filed [35 U.S.C. 371(c)(2)],
  - a) ☒ is transmitted herewith (required only if not transmitted by the International Bureau)
  - b) ☐ has been transmitted by the international Bureau
  - c) ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☒ A translation of the International Application into English [35 U.S.C. 371(c)(2)]
7. ☐ Amendments to the claims of the International Application under PCT Article 19 [35 U.S.C. 371(c)(3)].
  - a) ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
  - b) ☐ have been transmitted by the International Bureau.
  - c) ☐ have not been made; however, the time limit for making such amendments has **NOT** expired
  - d) ☐ have not been made and will not be made
8. ☐ A translation of the amendments to the claims under PCT Article 19 [35 U.S.C. 371(c)(3)].
9. ☒ An oath or declaration of the inventor(s) [35 U.S.C. 371(c)(4)]
10. ☐ A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 [35 U.S.C. 371(c)(5)]

Items 11. to 16. below concern other document(s) or information included:

11. ☒ An Information Disclosure Statement under 37 C.F.R. 1.97 and 198.
12. ☐ An Assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. ☒ A **FIRST** preliminary amendment.  
☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
14. ☐ A substitute specification.
15. ☐ A change of power of attorney and/or address letter.
16. ☒ (other items or information) **Two sheets of drawings and PTO-1449 w/2 references**

EXPRESS MAIL No.: EL 670 215 747 US Deposited: March 2, 2001

I hereby certify that this correspondence is being deposited with the United States Postal Service Express mail under 37 CFR 1.10 on the date indicated above and is addressed to the Commissioner of Patents and Trademarks, Washington, DC 20231

  
Friedrich Kueffner

March 2, 2001  
Date

09/786308

U.S. Application No. (if known, see 37 C.F.R. 1.50)  
 International Application No. PCT/DE99/02213

Page 2  
 Docket No: K0-38PCT

17. ☒ The following fees are submitted:

**BASIC NATIONAL FEE [37 CFR 1.492(a)(1)-(5)]:**

- ☒ Search Report has been prepared by the EPO or JPO. . . . . \$ 840.00
- ☐ International preliminary examination fee paid to USPTO [37 CFR 1.482]: . . . . . \$ 670.00
- ☐ No International preliminary examination fee paid to USPTO [37 CFR 1.482]  
 but International search fee paid to USPTO [37 CFR 1.445(a)(2)]: . . . . . \$ 690.00
- ☐ Neither International preliminary examination fee [37 CFR 1.482] nor  
 International search fee [37 CFR 1.445(a)(2)] paid to USPTO: . . . . . \$ 970.00
- ☐ International preliminary examination fee paid to USPTO [37 CFR 1.482]  
 and all claims satisfied provisions of PCT Article 33 (2) to (4): . . . . . \$ 96.00

**ENTER APPROPRIATE BASIC FEE AMOUNT: \$ 840.00**

Surcharge of \$ 130.00 for furnishing the oath or declaration later than 20 30 months  
 from the earliest claimed priority date [37 CFR 1.492(e)]

**\$ 840.00**

Claims	filed	Extra	Rate
Total Claims	13	-20=	x \$ 18.=
Indep. Claims	1	-3=	x \$ 78.=
Multiple Dependent Claims (if applicable) + \$ 260.=			

**TOTAL OF ABOVE CALCULATIONS: \$ 840.00**

Reduction by  $\frac{1}{2}$  for filing by small entity, if applicable. Verified Small Entity  
 Statement must be filed also [Note 37 CFR 1.9, 1.27, 1.28]

(divided by 2) **420.00**

**SUBTOTAL: \$ 420.00**

Processing fee of \$ 130.00 for furnishing the English translation later than X 20 30 months  
 from the earliest claimed priority date [37 CFR 1.492(f)]

**\$**

**TOTAL NATIONAL FEE: \$ 420.00**

Fee for recording the enclosed assignment [37 CFR 1.21(h)] the assignment must be  
 accompanied by an appropriate cover sheet [37 CFR 3.28, 3.31]. **\$ 40.00 per property**

**\$**

**TOTAL FEES ENCLOSED: \$ 420.00**

**AMOUNT TO BE REFUNDED: Refunded \$**

**AMOUNT TO BE CHARGED: Charged \$**

- a) ☒ The above fee of \$ 420.00 is being charged as per attached form PTO-2038.
- b) ☐ Please charge my Deposit Account No. 11-1835 in the amount of \$ to cover the above fees  
 A duplicate copy of this sheet is enclosed.
- c) ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any  
 overpayment to Deposit Account No. 11-1835. A duplicate copy of this sheet is enclosed.

NOTE: Where an appropriate time limit under 36 CFR 1.494 or 1.495 has not been met, a petition to revive [37 CFR 1.137(a) or (b)] must  
 be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO: Friedrich Kueffner  
 342 Madison Avenue  
 Suite 1921  
 New York, NY 10173

Friedrich Kueffner  
 Name

*F. Kueffner*  
 signature

29,482  
 Reg. No.

March 2, 2001  
 Date

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

KO-38PCT

Applicant(s) : Günter Richter  
Serial No. : NOT YET KNOWN (PCT/DE99/02213)  
Int. Filed : July 16, 1999  
For : METHOD AND DEVICE FOR PRODUCING A LARGE-VOLUME  
CONTAINER

Assistant Commissioner for Patents  
Washington, D.C. 20231

**PRELIMINARY AMENDMENT**

S I R:

In advance of the first office action, please amend the claims  
as follows:

**IN THE CLAIMS**

Claim 1, line 6, change "characterized in that" to --wherein--.

Claim 2, line 1, change "characterized in that" to --wherein--.

Claim 3, line 1, change "characterized in that" to --wherein--.

Claim 4, line 1, change "at least one of the claims 1 to 3,"  
to --claim 1,--;  
line 2, change "characterized in that" to --wherein--.

Claim 5, line 1, change "at least one of the claims 1 to 3,"  
to --claim 1,--;  
line 2, change "characterized in that" to --wherein--.

Claim 6, line 1, change "at least one" to --claim 1,--;  
line 2, delete "of the claims 1 to 5,";  
line 6, change "characterized in that" to --wherein--.

Claim 7, line 1, change "at least one" to --claim 1,--;  
line 2, delete "of the claims 1 to 5,";  
line 6, change "characterized in that" to --wherein--.

Claim 8, line 1, change "claim 6 or 7, characterized in that"  
to --claim 6, wherein--.

Claim 9, line 1, change "characterized in that" to --wherein--.

Claim 10, line 1, change "claim 8 or 9, characterized in that"  
to --claim 8, wherein--.

Claim 11, line 1, change "at least one of the claims 8 to 10,"  
to --claim 8,--;  
line 2, change "characterized in that" to --wherein--.

Claim 12, line 1, change "at least one of the claims 8 to 10,"  
to --claim 8,--;  
line 2, change "characterized in that" to --wherein--.

Claim 13, line 1, change "claim 6 or 7, characterized in that"  
to --claim 6, wherein--.

#### REMARKS


Claims 1 - 11 are in the application.

As a result of the foregoing amendment, the claims have been amended to remove improper multiple dependencies.

Any additional fees or charges required at this time in connection with the application may be charged to our Patent and Trademark Office Deposit Account No. 11-1835.

Respectfully submitted,

FK:ml  
March 2, 2001  
342 Madison Avenue  
New York, NY 10173  
(212) 986-3114

  
\_\_\_\_\_  
Friedrich Kueffner  
Reg. No. 29,482

EXPRESS MAIL No.: **EL 670 215 747 US**      Deposited: **March 2, 2001**

I hereby certify that this correspondence is being deposited with the United States Postal Service Express mail under 37 CFR 1.10 on the date indicated above and is addressed to the Commissioner of Patents and Trademarks, Washington, DC 20231.

  
\_\_\_\_\_  
Friedrich Kueffner

March 2, 2001  
Date

JC02 Rec'd PCT/PTO 0 2 MAR 2001

I, Gudrun E. Hockett, of 1105 Summit Dr. NE, Albuquerque, NM 87106, USA, hereby declare:

I have prepared the attached English language translation of German language international application

to the best of my knowledge and belief, the attached is a true and complete translation of the above identified document.

January 27, 2001

(date)

2/ PRTS

09/786308

JCO2 Rec'd PCT/PTO 02 MAR 2001

**Translation of WO 00/15409 (PCT/DE99/02213)**

**Method and Device for Producing a Large-Volume Container**

The invention relates to a method for producing a large-volume, cup-shaped or tub-shaped container of thermoplastic material, wherein a hose-shaped pre-form of compact plastic material is extruded to a predetermined length, is widened by means of spreading elements to a predetermined size, and subsequently formed by forming air to the container, as well as to a device for performing the method.

Transport and storage containers of compact plastic material, which are cup-shaped or tub-shaped, i.e., open at the top, are known which are initially produced by an extrusion method, in which a hose-shaped pre-form is produced, and a subsequent blowing method in a hollow, at least two-part mold, in which the hose-shaped pre-form is widened by blowing air and brought into contact with the inner wall of the hollow mold. The thus shaped container is then still closed at the top. By cutting off the upper cover area, the required container open at the top is then produced. This cutting step represents an additional working step which requires a special cutting device. Moreover, the upper edge of the container has a relatively minimal strength which is disadvantageous when the container is used as a protective container for another container.

A protective container for a large-volume container is known by which the aforementioned disadvantages are avoided.

This protective container has, however, a wall which is comprised of three layers wherein the inner layer is formed of a foamable plastic material. Such a wall, on the one hand, entails a high material consumption and requires, on the other hand, an extrusion device with relatively high capital investment. In addition to the extrusion device a mold is required which is complex and comprised of an inner mold and an outer mold and must withstand the foaming pressure of the inner layer. The method, as already mentioned above, can be performed only with a foamable inner layer. From U.S. patent 5,474,734, a method for manufacturing hollow mold parts of thermoplastic material by a blowing process is known in which the finished mold parts are to have different wall thicknesses. In order to achieve this, two spreading elements, which can be supplied with a cooling liquid, are introduced from below into an extruded, hose-shaped pre-form with constant wall thickness and are moved apart. This reduces the wall thickness of the hose-shaped pre-form in the two areas which are not resting against the two spreading elements while the wall thickness remains constant in the area where the hose-shaped pre-form rests against the cooled spreading element. As soon as the desired degree of spreading has been reached, the two spreading elements are removed from the pre-form. Subsequently, a two-part blowing mold is closed about the pre-form and its lower and upper ends are squeezed together. When closing the mold, a blowing spike is introduced into the pre-form by means of which the pre-form is then blown to the finished, closed molded part.

The invention has thus the object to provide a method for producing a large-volume, cup-shaped or tub-shaped container of thermoplastic



material which can be performed with an extremely simple extrusion device and molds.

As a solution to this object it is suggested according to the invention for the method of the aforementioned kind that a core is moved into the extruded, hose-shaped and widened pre-form from below and the lower free end of the widened pre-form is clamped sealingly against the core.

Such a method does not require a complicated and complex extrusion device for producing a large-volume, cup-shaped or tub-shaped container that is open at the top and has a wall of compact plastic material. The part of the mold which determines the final shape of the container can be of a simple design wherein in many cases a core as a shaping body is already sufficient. A special mold of at least two parts is then no longer needed. When manufacturing the container on a core, blowing air is exclusively used as the forming air. In the process of manufacturing in a mold, the forming air can be blowing air as well as a vacuum.

Further features of a method according to the invention as well as of a device for performing the method are disclosed in the claims 2 to 13.

The invention will be explained in the following in more detail with the aid of embodiments illustrated in the drawing.

It is shown in:

Fig. 1            a plan view onto a core serving as a shaping body  
                  for performing the inventive method,  
Figs. 2 to 6    the individual method steps for producing a  
                  container, and  
Fig. 7           a variation of a method step.

In the Figs. 6 and 7 of the drawing, a container 1, produced in different ways, respectively, is shown in section in a very simplistic illustration. This container 1 can have specially designed ribs in the area of its lateral walls as well as can be provided in the area of its bottom, which here is at the top, with specially shaped ribs which form a type of pallet-like bottom for the container. This container 1, which is formed in this connection of compact thermoplastic material, is completely open at its lower end according to Figs. 6 and 7 so that the container has a cup-shaped or tub-shaped configuration which is then open at the top for its later use.

The container 1 according to Fig. 6 is now produced by means of a core 2 which is illustrated in a plan view in the Fig. 1 of the drawing. This core 2, acting as a shaping body, has an approximately rectangular cross-section and is provided on all four corners with a respective spreading element 3 complementing the cross-section of the core 2, respectively, but movable independently of the core. The spreading elements 3 form a so-called spreading unit. Each spreading element 3 is supported by a pivot lever 4, only schematically illustrated, which is pivotable below the core 2 about axis 5. Two adjacently positioned pivot levers 4 with their spreading elements 3 are correlated with a common pivot axis 5. For the movement of the pivot levers 4 and

thus of the spreading elements 3, drives, not illustrated in the drawing but known in the art, are correlated therewith by which the pivot levers 4 and thus the spreading elements 3 can be moved from their position on the corners of the core 2 inwardly into the position illustrated in Fig. 1, and back. In addition, each axis 5 has a lifting drive, not illustrated but known in the art, correlated therewith by which the pivot lever 4 and thus the spreading elements 3 can be lifted into a predetermined position which will be explained in the following. If needed, both axes 5 can have one common lifting drive correlated therewith. Also, the core 2 can be lifted by means of a lifting drive. In this connection, the lifting drives are, for example, mounted on a common frame.

For the manufacture of the container 1 according to Fig. 6 it is now assumed that the core 2 is lowered and the spreading elements 3 have assumed their inner position within but above the core 2. This means that the spreading elements 3 are pivotable inwardly by means of their pivot arms 4 and now assume their inner position. In this position of the spreading elements 3, a hose-shaped pre-form 6 is now continuously or discontinuously moved from above by means of an extruder, not illustrated, about the inwardly moved spreading elements 3, as illustrated in Fig. 2. This hose-shaped pre-form 6 has, for example, a single-layer wall of compact plastic material. The pre-form 6 is now extruded in a predetermined length illustrated in Fig. 2 about the inwardly moved spreading elements 3. In this connection, the four spreading elements 3 are surrounded by the hose-shaped pre-form 6. As soon as the pre-form 6 has the required length, it is then squeezed together by blades 7, only schematically shown, or a so-called hose closure and welded

(Fig. 3). Now the spreading elements 3 are moved outwardly by means of their pivot arms 4 to such an extent that the hose-shaped pre-form 6 is widened. The degree of spreading is predetermined to be so large that the core 2 can be moved into the widened pre-form 6 according to Fig. 4. This means that the core 2 is lifted. By means of special clamping elements 8 the extruded pre-form 6 is now pressed in the area of its lower open end against the core 2 so that an extremely narrow squeezed rim 9 is produced, as illustrated on an enlarged scale in Fig. 6 of the drawing.

The core 2 is now provided at its surface with relatively small channels 11 which open into a central channel. This central channel is connected to a vacuum line. By means of forming air, in this case it is the application of vacuum to the channels 11, the wall of the pre-form 6 is now brought into contact at the surface of the core 2. Accordingly, the container 1 of Fig. 6 is formed. After cooling and hardening of the container 1, the core 2 can be removed therefrom and the extremely thin squeezed rim 9 can be cut by means of a knife.

In the described method the container 1 is produced without using an outer mold. This means, however, that the thickness of the wall of the container 1 does not necessarily have a uniform thickness everywhere. With a corresponding control of the extrusion process it is now possible to form the thickness of the wall of the hose-shaped, extruded pre-form 6 differently so that the wall of the finished container 1 in the individual areas of its height can also be different. For the removal of the core 2 from the container 1, it is now required to hold the container 1 on a stripper bar and to move the core 2 together with the spreading elements 3 again into

the initial position. The container 1 is now completely free and can be removed from the device.

In the manufacture of the container 1 of Fig. 7, the shape of the container 1 is not only determined by the core 2 but by a two-part outer mold 10. The core 2 accordingly can be designed considerably shorter. The short core 2 with the pre-form 6 according to Fig. 5 is moved into the outer mold 10 and is clamped therein by means of clamping elements 8 on the core 2. This results also in a squeezed rim 9. After closing the hollow mold 10 about the core 2, blowing air as shaping air is introduced through the core 2 into the hose-shaped pre-form 6 which causes the hose-shaped pre-form 6 to contact the inner wall of the hollow mold 10. After cooling of the container 1, the squeezed rim 9 is again cut by a knife and the hollow mold 10 as well as the core 2 are removed.

In a variation of the explained embodiments, it is possible to use only two, three or more than four spreading elements 3. In the case of two spreading elements 3 they must be shell-shaped and can be hinged or foldable. The cross-section of the spreading elements 3 can otherwise be as desired. It is decisive in this connection that the spreading elements 3 are able to widen the pre-form 6, which is smaller in cross-section, or to enlarge its peripheral contour such that a core 2 can be introduced whose cross-section is greater than the original cross-section of the extruded pre-form 6. Moreover, it is possible to design the core 2 itself to be collapsible so that the spreading elements 3 can be eliminated and the core 2 forms the so-called spreading unit.

## Claims

1. A method for producing a large-volume, cup-shaped or tub-shaped container of thermoplastic material, in which a hose-shaped pre-form of compact plastic material is extruded to a predetermined length, is widened by means of spreading elements by a predetermined amount, and is subsequently formed to a container by means of shaping air, characterized in that a core is moved into the extruded, hose-shaped and widened pre-form from below and the widened pre-form is clamped at its lower, free end sealingly against the core.
2. The method according to claim 1, characterized in that the container is formed by means of vacuum on the core which is designed as a shaping body.
3. The method according to claim 1, characterized in that the container is formed by means of vacuum or blowing air on a two-part hollow mold surrounding the core at a spacing and being designed as a shaping body.
4. The method according to at least one of the claims 1 to 3, characterized in that the extruded pre-form is widened by at least two rod-shaped spreading elements.
5. The method according to at least one of the claims 1 to 3, characterized in that the extruded pre-form is widened by the core.

6. A device for performing the method according to at least one of the claims 1 to 5, comprised of an extrusion head for forming a hose-shaped pre-form of a single-layer, compact plastic material and a spreading unit movable from below the pre-form (6) to be formed by a relative movement into the pre-form (6), characterized in that a core (2) is arranged below the pre-form to be formed and can be introduced into the pre-form (6), and in that the core (2) has an at least two-part clamping element (8) correlated therewith which sealingly presses the pre-form (6) onto the core (2), and in that the core (2) can be loaded with a vacuum.
7. A device for performing the method according to at least one of the claims 1 to 5, comprised of an extrusion head for forming a hose-shaped pre-form of a single-layer, compact plastic material and a spreading unit movable from below the pre-form (6) to be formed by a relative movement into the pre-form (6), characterized in that a core (2) is arranged below the pre-form to be formed and can be introduced into the pre-form (6), and in that the core (2) has an at least two-part clamping element (8) correlated therewith which sealingly presses the pre-form (6) onto the core (2), and in that a hollow mold (10), loadable with vacuum or blowing air and surrounding the core (2) at a spacing, is correlated with the core.
8. The device according to claim 6 or 7, characterized in that the spreading unit is comprised of at least two spreading elements (3) that can be moved apart.

9. The device according to claim 8, characterized in that the spreading elements (3) have different cross-sectional shapes.
10. The device according to claim 8 or 9, characterized in that the spreading elements (3) are formed of parts of the shaping body (2).
11. The device according to at least one of the claims 8 to 10, characterized in that the spreading elements (3) are configured to be radially movable.
12. The device according to at least one of the claims 8 to 10, characterized in that the spreading elements (3) are configured to be pivotable.
13. The device according to claim 6 or 7, characterized in that the spreading unit is formed by a spreadable or foldable core.





<b>(51) Internationale Patentklassifikation 7 :</b> <b>B29C 49/04, 49/42</b>	<b>A1</b>	<b>(11) Internationale Veröffentlichungsnummer:</b> <b>WO 00/15409</b> <b>(43) Internationales Veröffentlichungsdatum:</b> 23. März 2000 (23.03.00)
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**(21) Internationales Aktenzeichen:** PCT/DE99/02213  
**(22) Internationales Anmeldedatum:** 16. Juli 1999 (16.07.99)  
**(30) Prioritätsdaten:**  
198 42 309.8      16. September 1998 (16.09.98)      DE  
**(71)(72) Anmelder und Erfinder:** RICHTER, Günter [DE/DE];  
Johannistal 12, D-57610 ~~Montabaur~~ (DE);  
**Altenkirchen (DE)**  
**(74) Anwalt:** KOSSOBUTZKI, Walter, Hochstrasse 7, D-56244  
Helferskirchen (DE).

**(81) Bestimmungsstaaten:** BR, CA, CN, JP, KR, MX, US,  
europäisches Patent (AT, BE, CH, CY, DE, DK, ES, FI,  
FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

**Veröffentlicht**

*Mit internationalem Recherchenbericht.  
Vor Ablauf der für Änderungen der Ansprüche zugelassenen  
Frist; Veröffentlichung wird wiederholt falls Änderungen  
eintreffen.*

**(54) Title:** METHOD AND DEVICE FOR PRODUCING A LARGE-VOLUME CONTAINER,

**(54) Bezeichnung:** VERFAHREN UND VORRICHTUNG ZUR HERSTELLUNG EINES GROSSVOLUMIGEN BEHÄLTERS

**(57) Abstract**

The invention relates to a method for producing a large-volume cup-shaped or tub-shaped container made of a synthetic thermoplastic material, whereby a compact plastic, flexible hose-type preform (6) is extruded to obtain a given length and the container (1) is subsequently shaped. In order to carry out said operations with the aid of extremely simple extrusion devices and moulds, the extruded preform (6) is expanded to a given size and a core (2) is moved upwards into the expanded preform (6). The lower, open end of the expanded preform (6) is then clamped against the core (2) to provide a seal and the preform is shaped by air in order to form a container.

**(57) Zusammenfassung**

Die Erfindung bezieht sich auf ein Verfahren zur Herstellung eines grossvolumigen, tassen- oder wannenartigen Behälters aus thermoplastischem Kunststoff, bei dem ein schlauchartiger Vorformling (6) aus kompaktem Kunststoff in einer vorgegebenen Länge extrudiert und anschließend zu dem Behälter (1) verformt wird. Um mit äußerst einfachen Extrusionsvorrichtungen und Formen auszukommen, wird zunächst der extrudierte Vorformling (6) um ein vorgegebenes Maß aufgeweitet und dann von unten ein Kern (2) in den aufgeweiteten Vorformling (6) bewegt. Danach wird der aufgeweitete Vorformling (6) an seinem unteren, freien Ende dichtend gegen den Kern (2) verspannt und anschließend wird der Vorformling mittels Formluft zu dem Behälter (1) geformt.

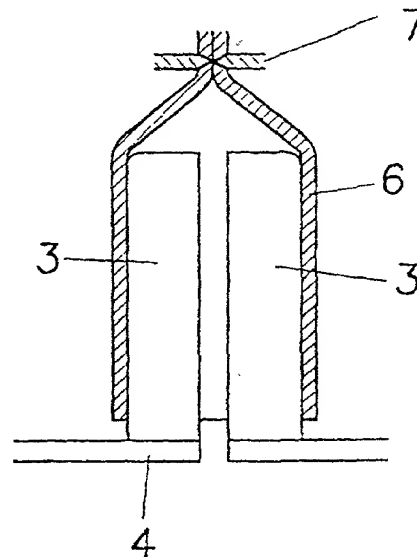


Fig.1

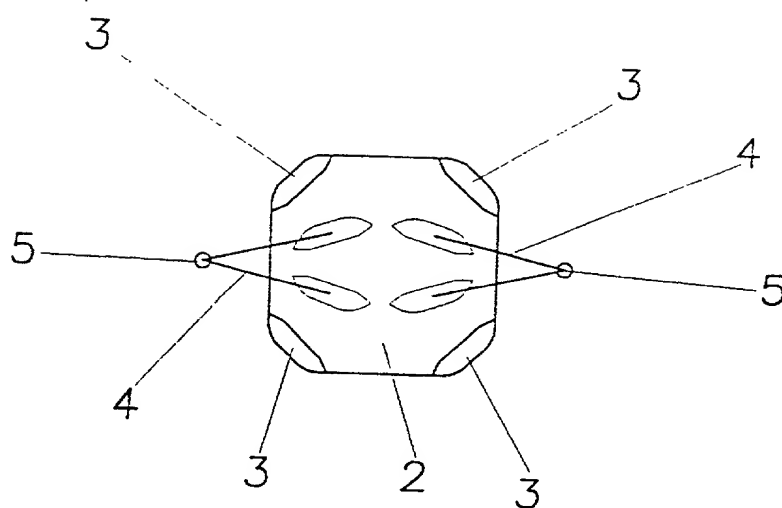


Fig.2

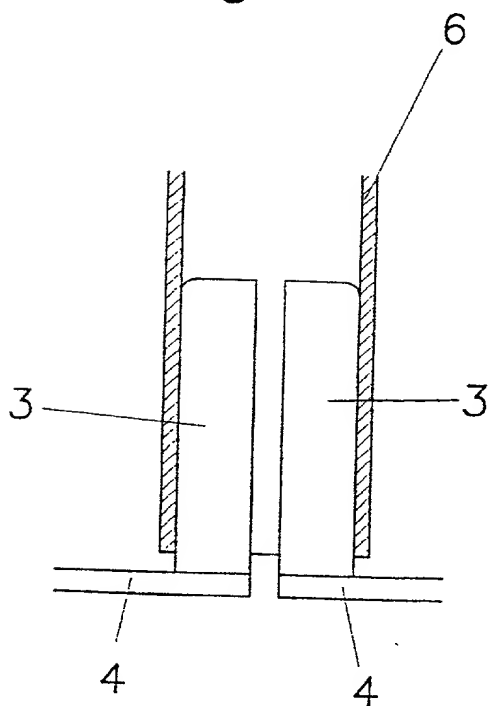


Fig.3

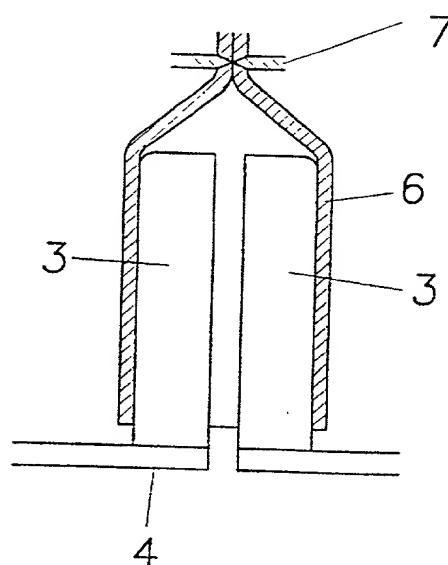


Fig.4

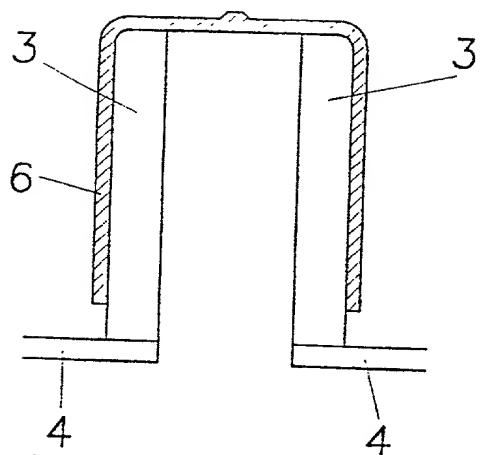


Fig.5

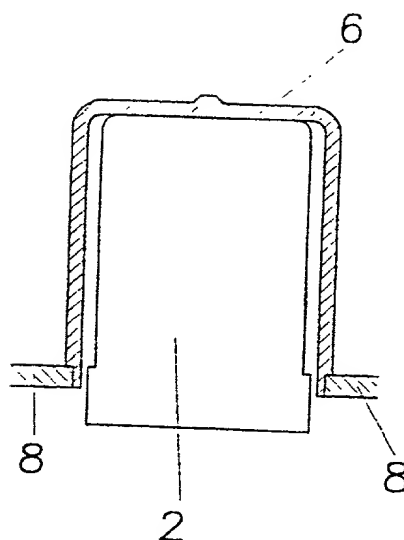


Fig.6

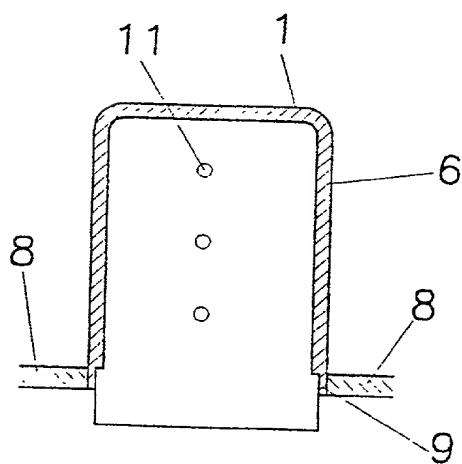
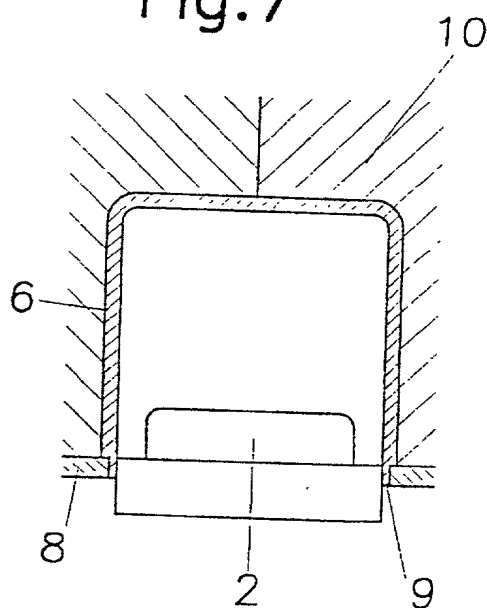


Fig.7



**COMBINED DECLARATION FOR PARENT APPLICATION AND POWER OF ATTORNEY**  
(includes Reference to PCT International Applications)

Attorney's Docket No.  
**KO-38**

As a below named inventor, I hereby declare that:  
My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled: **METHOD AND DEVICE FOR PRODUCING A LARGE-VOLUME CONTAINER**

the specification of which (check only one item below):

☐

is attached hereto.

☐

was filed as United States application

Serial No. \_\_\_\_\_  
on \_\_\_\_\_  
and was amended  
on \_\_\_\_\_ (if applicable).

☒

was filed as PCT international application

Number **PCT/DE99/02213**  
on **July 16, 1999**  
and was amended under PCT Article 19  
on \_\_\_\_\_ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed:

**PRIOR FOREIGN/PCT APPLICATION(S) AND ANY PRIORITY CLAIMS UNDER 35 U.S.C. 119:**

COUNTRY (if PCT, indicate PCT)	APPLICATION NUMBER	DATE OF FILING (day, month, year)	PRIORITY CLAIMED UNDER 35 USC 119
<b>GERMANY</b>	<b>198 42 309.8</b>	<b>16 September 1998</b>	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
			<input type="checkbox"/> YES <input type="checkbox"/> NO
			<input type="checkbox"/> YES <input type="checkbox"/> NO

**Combined Declaration For Parent Application and Power of Attorney (Continued)**  
(includes Reference to PCT International Applications)

Docket No.  
**KO-38**

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) or PCT international application(s) designating the United States of America that is/are listed below and, insofar as the subject matter of each of the claims of the application is not disclosed in that/those prior application(s) in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty of disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application(s) and the national or PCT international filing date of this application:

**PRIOR U.S. APPLICATIONS OR PCT INTERNATIONAL APPLICATIONS DESIGNATING THE U.S. FOR BENEFIT UNDER 35 U.S.C. 120:**

**U.S. APPLICATIONS**

**STATUS(CHECK ONE)**

U.S. APPLICATION NUMBER

U.S. FILING DATE

PATENTED

PENDING

ABANDONED

**PCT APPLICATIONS DESIGNATING THE U.S.**

PCT APPLICATION NO.

PCT FILING DATE

U.S. SERIAL NO.

**POWER OF ATTORNEY:** As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. (List name and registration number)

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**Combined Declaration For Parent Application and Power of Attorney (Continued)**  
(includes Reference to PCT International Applications)

Docket No.  
KO-38

2	FULL NAME OF INVENTOR	<u>Family Name</u>	<u>First Given Name</u>	<u>Second Given Name</u>
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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

SIGNATURE OF INVENTOR 201

*Walter A. Holt*

SIGNATURE OF INVENTOR 202

SIGNATURE OF INVENTOR 203

DATE

7. Febr. 01

DATE

DATE